

What is claimed is:

1 1. A superheterodyne transceiver, comprising:
2 a front end circuit with a differential pair, outputting
3 a differential signal;
4 a transformer having primary and secondary side, wherein
5 the primary side has a tap coupled to ground and
6 two input terminals for receiving the differential
7 signal, and the secondary side has an output
8 terminal; and
9 a surface acoustic wave filter having an input terminal
10 coupled to the output terminal of the secondary
11 side, and an output terminal.

1 2. The superheterodyne transceiver of claim 1, further
2 comprising an intermediate frequency circuit having an input
3 terminal coupled to the output terminal of the surface
4 acoustic wave filter.

1 3. The superheterodyne transceiver of claim 1, wherein
2 the reactance of the input terminal of the surface acoustic
3 wave filter is essentially capacitive.

1 4. The superheterodyne transceiver of claim 1, wherein
2 the reactance of the output terminal of the secondary side
3 of the transformer is essentially inductive.

1 5. The superheterodyne transceiver of claim 1, further
2 comprising a matching circuit coupled between the output
3 terminal of the secondary side of the transformer and the input
4 terminal of the surface acoustic wave filter.

1 6. The superheterodyne transceiver of claim 1, further
2 comprising a LC matching network coupled between the output
3 terminal of the secondary side of the transformer and the input
4 terminal of the surface acoustic wave filter.

1 7. The superheterodyne transceiver of claim 1, wherein
2 the tap of the primary side of the transformer couples to the
3 ground through a capacitor.

1 8. The superheterodyne transceiver of claim 1, wherein
2 the tap of the primary side of the transformer couples to a
3 DC bias voltage through a resistor.

1 9. The superheterodyne transceiver of claim 1, wherein
2 the front end circuit comprises a mixer with an output terminal
3 as the differential pair of the front end circuit.

1 10. The superheterodyne transceiver of claim 1, wherein
2 the front end circuit comprises a Gilbert cell.

1 11. A superheterodyne transceiver, comprising:

2 a mixer with a differential pair, outputting a
3 differential signal;

4 a transformer having a primary side with a tap coupled
5 to ground, and a secondary side with an output
6 terminal, wherein the primary side has two input
7 terminals for receiving the differential signal;
8 and

9 a surface acoustic wave filter having an input terminal
10 coupled to the output terminal of the secondary
11 side, and an output terminal.

1 12. The superheterodyne transceiver of claim 11,
2 further comprising an intermediate frequency circuit having
3 an input terminal coupled to the output terminal of the surface
4 acoustic wave filter.

1 13. The superheterodyne transceiver of claim 11,
2 wherein the reactance of the input terminal of the surface
3 acoustic wave filter is essentially capacitive.

1 14. The superheterodyne transceiver of claim 11,
2 wherein the reactance of the output terminal of the secondary
3 side of the transformer is essentially inductive.

1 15. The superheterodyne transceiver of claim 11,
2 further comprising a matching circuit coupled between the
3 output terminal of the secondary side of the transformer and
4 the input terminal of the surface acoustic wave filter.

1 16. The superheterodyne transceiver of claim 11,
2 further comprising a LC matching network coupled between the
3 output terminal of the secondary side of the transformer and
4 the input terminal of the surface acoustic wave filter.

1 17. The superheterodyne transceiver of claim 11,
2 wherein the tap of the primary side of the transformer couples
3 to the ground through a capacitor.

1 18. The superheterodyne transceiver of claim 11,
2 wherein the tap of the primary side of the transformer couples
3 to a DC bias voltage through a resistor.

1 19. The superheterodyne transceiver of claim 11,
2 wherein the mixer comprises a Gilbert cell.